

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 1 has been cancelled, while claim 2 has been amended to include the limitations of cancelled claim 1. In addition, claims 9-12 have been amended to include the limitations of claim 2. In addition, the claims have been amended for clarity.

The Examiner has rejected claim 12 under 35 U.S.C. 101 in that the claimed invention is directed to non-statutory subject matter. The Examiner has further rejected claim 12 under 35 U.S.C. 112, paragraph 1, as failing to comply with the written description requirement, in that the subject matter "computer-readable medium is not defined or described in the specification.

With regard to the 101 rejection, claim 12 had originally claimed only "Processor program product..." However, in view of a '101 rejection in the previous Office Action which stated "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized", Applicants chose to amend claim 12 to recite "Computer program product embodied in a computer-readable medium..." The current '101 rejection now states "In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the

computer which permit the computer program's functionality to be realized, and is thus statutory." Applicants submit that claim 12 is in accordance with this statement, i.e., "A computer program stored on a computer readable medium...", and, as such, is indeed statutory.

With regard to the '112 rejection, Applicants note that claim 12 had been amended merely to comply with the '101 requirement. Applicants point out that MPEP §2163.07(a) states:

"By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter. *In re Reynolds*, 443 F.2d 384, 170 USPQ 94 (CCPA 1971); *In re Smythe*, 480 F. 2d 1376, 178 USPQ 279 (CCPA 1973)."

Applicants submit that it is inherent that a processor would have a program product stored on some computer-readable medium (e.g., a computer (or processor) memory) in order for the processor to execute the steps in the program. As such, Applicants submit that it does not constitute new matter for the claim to now state that the computer program product is stored on a computer-readable medium.

The Examiner has rejected claims 1-3 and 9-12 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,878,085 to McCalister et al. in view of U.S. Patent 6,578,162 to Yung. Applicants acknowledge that the Examiner has allowed claims 13 and

14, and has found claims 4-8 allowable over the prior art of record.

The McCalister et al. patent discloses trellis coded modulation communications using pilot bits to resolve phase ambiguities, which discloses several of the elements of, for example, claim 2. However, as noted by the Examiner, "McCallister et al does not teach a non-linear compensator coupled to receive a decoder output for compensating a decoder output signal."

The Yung patent discloses an error recovery method and apparatus for ADPCM encoded speech, which arguably discloses this limitation. Claim 2, however, includes the limitations "wherein said differential detector further comprises a non-linear compensator coupled to an output of said decoder output for compensating a decoder output signal" and "wherein said non-linear compensator comprises a channel estimator for estimating at least one coefficient of at least one term of said decoder output signal and a remover for removing said at least one term from said decoder output signal".

The Examiner has indicated that Yung teaches "said non-linear compensator comprises a channel estimator for estimating (see col. 5, lines 16-20; 65-67) at least one coefficient of at least one term of said decoder output signal and a suppression circuit is functionally equivalent to the claimed (remover or removing) (see col. 7, lines 25-27) at least one term of said decoder output signal. Furthermore implementing the teaching of Yung into McCallister would have been obvious to one skilled in the

art as to effectively reduce output levels when they have exceed a value B as taught by Yung (see col.16, lines 58-60)."

Applicants submit that the Examiner is mistaken. In particular, while Yung discloses a non-linear processor (116) coupled to an output of the decoder (110) for compensating the decoder output signal, Yung does not disclose that the non-linear processor comprises a channel estimator and a remover. In particular, while Yung mentions a channel estimator, this is not in regard to the non-linear processor 116, but rather Yung is describing a decoder which is prior art to the Yung invention. In particular, col. 5, lines 16-20 and 65-67 relate to a G.726 compliant decoder of Fig. 2 (col. 4, lines 7-8). The adaptive predictor 14, which generates the estimate $s_e(k)$ does not operate on the output signal $s_d(k)$ of the decoder, but rather on some internal signal $s_r(k)$. Further, there is no disclosure or suggestion in Yung that $s_e(k)$ is at least one coefficient of at least one term in the decoder output signal.

In addition, while the suppression circuit arguably operates as a remover and is connected to the output of the decoder, there is no disclosure or suggestion that this suppression circuit removes the coefficient/term estimated by the channel estimator from the decoder output signal.

In view of the above, Applicants believe that the subject invention, as claimed, is not rendered obvious by the prior art,

either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 2-14, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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